

Guidelines

Breastfeeding,
Family Planning, and
the Lactational
Amenorrhea
Method-LAM

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Introduction

Child spacing is vital for maternal health and child survival.

Child spacing of at least two or three years

- saves lives;
- reduces mortality and morbidity of the children born both before and after the longer interval; and
- gives the mother time to renew nutrient stores.

Breastfeeding is vital for child survival, maternal health, and child spacing.

Breastfeeding

- saves lives;
- is perfect nutrition for infants and children;
- substantially contributes to increasing birth intervals throughout the world;^{1,2}
- reduces the mother's risk of ovarian, endometrial, and premenopausal breast cancers, and osteoporosis;⁴ and
- may be used as an introductory family planning method, the Lactational Amenorrhea Method (LAM).

Introducing family planning during breastfeeding is vital for child spacing, child survival, and maternal health. Delaying the next birth also allows breastfeeding to continue. Family planning should start while the mother is breastfeeding, and should be selected with breastfeeding in mind.

There is an obvious complementarity between child spacing, child survival, maternal health, family planning, and breastfeeding. To help mothers breastfeed successfully, health workers should provide them with

- adequate support systems;
- accurate and timely information;
- encouragement that they can succeed; and
- appropriate, complementary family planning.

The **Lactational Amenorrhea Method (LAM)** is a highly effective introductory family planning method for breastfeeding women. It provides natural protection against pregnancy for up to six months after birth, and encourages the timely introduction of complementary methods during breastfeeding.

Child survival programs—including nutrition, diarrheal disease control, immunization, growth monitoring, family planning, and other primary health care interventions—offer valuable opportunities for LAM education and breastfeeding support and promotion. Their goals are compatible with and enhanced by breastfeeding.

Family planning programs benefit from LAM in many ways. Since more than 90 percent of women worldwide breastfeed, all women need to know how best to introduce family planning during lactation. In many places, LAM builds on women's beliefs. It encourages more timely initiation of complementary family planning methods, resulting in increased use of all family planning methods, while supporting a natural behavior essential for health.

Women of child bearing age are often the targeted audience for a variety of health education messages which may be conflicting. It is critical that consistent information, based on documented scientific evidence, is available. Whether for family planning, child survival, or nutrition and weaning programs, consistent messages across sectors are necessary for successful breastfeeding and the effective use of LAM.

Providers are encouraged to adapt or modify these materials to meet specific interests, cultural variations, local terminology, and available resources of individual programs. All charts may be copied for use as handouts or posters.

Lactational Amenorrhea Method

The **Lactational Amenorrhea Method (LAM)** is based on the physiological infertility experienced by breastfeeding women. This infertility is caused by the hormonal suppression of ovulation.¹ Recent scientific study is further clarifying the underlying physiological mechanisms of fertility suppression.²⁻⁷ After reviewing extensive data on lactational amenorrhea, scientists who attended the Bellagio Consensus Conference in 1988 agreed that a woman is more than 98 percent protected against pregnancy when she is less than six months postpartum, amenorrheic, and fully or nearly fully breastfeeding.³

In 1989, family planning service providers met at Georgetown University to review the Consensus and other published literature on the subject.⁸⁻¹¹ The result of this meeting was the development and naming of LAM. The method is presented as an algorithm, a specific set of defined rules that, if followed to their end, will lead to specific recommendations.¹² In this simplified format, the method is easy to teach to both health workers and clients, and easy to recall. LAM emphasizes that when any one of the three conditions change, the woman needs to begin using a complementary family planning method to continue this low risk of pregnancy.

Since its development, LAM has been tested in numerous settings. A clinical trial in Chile of 422 women resulted in a cumulative six-month life table rate of 99.5 percent (one woman pregnant in month six).¹³ A pilot study that introduced LAM in a family planning service delivery setting in Ecuador found that LAM attracted new users, that 90 percent of acceptors used the method correctly and began timely use of a complementary family planning method with only one follow-up visit, and that there was a high rate of satisfaction with the method among users.¹⁴ Extended LAM, using LAM for nine months, was studied in Rwanda, where the average duration of lactational amenorrhea is more than 12 months. Mothers using LAM were encouraged to start weaning at six months but to breastfeed before each supplemental feeding. No pregnancies were reported in this preliminary study.¹⁵ Future research will continue to assess LAM's acceptability and efficacy in a variety of settings worldwide.

Lactational Amenorrhea Method

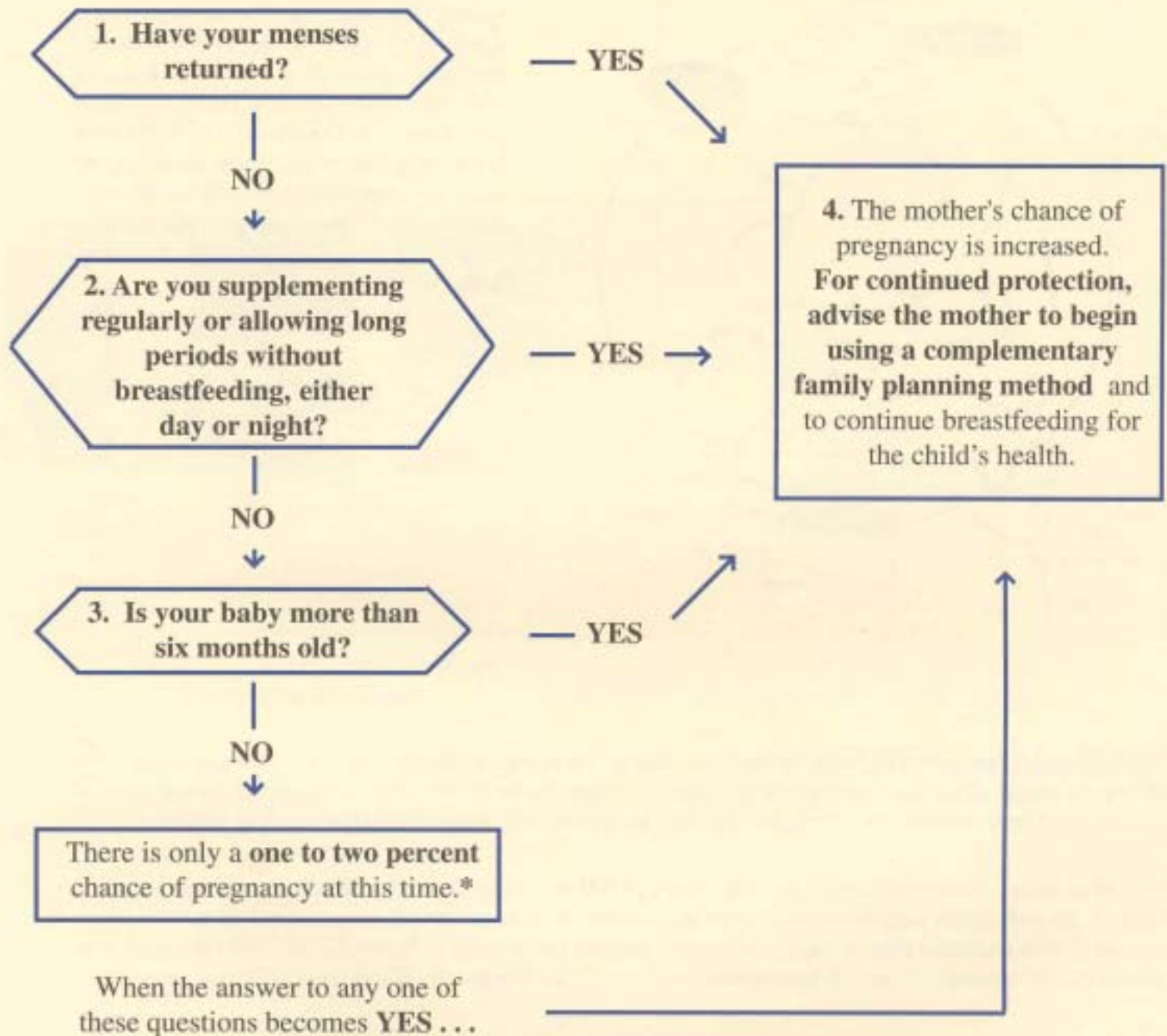
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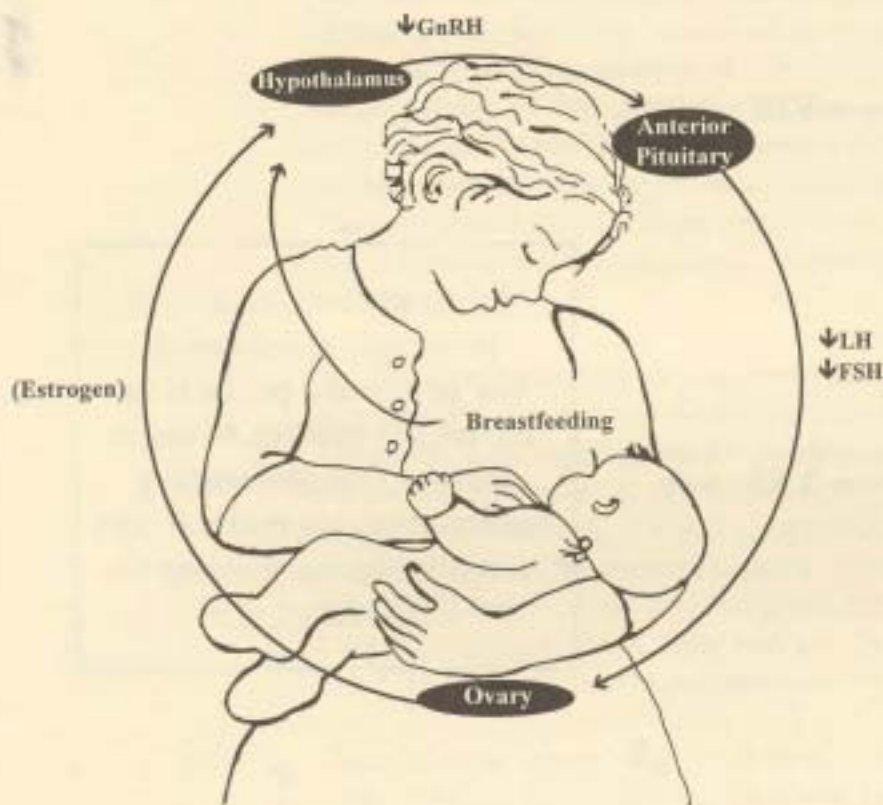
LAM: Lactational Amenorrhea Method

Ask the mother, or advise her to ask herself,
these three questions:



*However, the mother may choose to use a complementary family planning method *at any time*.

LAM: The Physiology



The physiology of LAM is based on the hypothalamic-pituitary-ovarian feedback system. Suckling at the breast sends neural signals to the hypothalamus. This mediates the level and rhythm of gonadotropin releasing hormone (GnRH) secretion. GnRH influences pituitary release of follicle stimulating hormone (FSH) and luteinizing hormone (LH), the hormones responsible for follicle development and ovulation. Hence, breastfeeding results in decreased and disorganized follicular development.^{6,7}

Illustration by Rosalyn Corrales, adapted from Valdez, V and Pérez, A. 1990. *Lactancia Materna*. (Santiago: Aranzibia Irujo, y Cia. Ltda.).

LAM guidelines are extremely safe. Of the three criteria, the return of menses is the most important indication of fertility return. (This does not include spotting that occurs in the first 56 days postpartum.) Nonetheless, if frequency of feeds remains very high, fertility may be significantly suppressed after bleeding resumes.⁹

Extensive research has emphasized the importance of **full or nearly full breastfeeding patterns**. Lowered frequencies and regular supplementation to the infant's diet are associated with increased risk of menses return as well as with increased chance that ovulation will precede that menses.¹⁶ Hence, LAM allows for exclusive, almost exclusive, and high-partial breastfeeding patterns. (See Schema for Breastfeeding Definition.)

Six months is the least important of the three criteria. The risk of ovulation prior to menses increases gradually over the months postpartum with no sudden increase at six months.¹⁶ This time is selected because weaning recommendations suggest supplementation at this age.

Eight Optimal Breastfeeding Behaviors

1

Allow newborn to breastfeed as soon as possible after birth, and to remain with the mother for at least several hours following delivery.

2

Breastfeed frequently, whenever the infant is hungry, both day and night.

3

Breastfeed exclusively for the first six months.

4

After the first six months when supplemental foods are introduced, breastfeeding should precede each supplemental feeding.

5

Continue to breastfeed for up to two years and beyond.

6

Continue breastfeeding even if the mother or the baby becomes ill.

7

Avoid using bottles, pacifiers (dummies), or other artificial nipples.

8

Mothers should eat and drink sufficient quantities to satisfy their hunger and thirst.

Recommended Breastfeeding Behaviors for Optimal Child Survival and Spacing

The following recommendations may serve as a resource in the development of appropriate educational and promotional messages and materials. They can be used to evaluate current messages and existing materials in order to ensure accuracy and consistency. While **these behaviors are considered optimal** for early child development as well as for birth spacing, **absolute adherence is not essential to the use of LAM** as a child spacing method. ^{2,3,18}

Optimal Behavior	Explanation
<i>Allow newborn to breastfeed as soon as possible after birth, and to remain with the mother for at least several hours following delivery.</i>	Colostrum, the early milk present in the breast during the first few days following birth, provides necessary nutrients and protection against disease and should be given to the infant. Early and frequent stimulation of the breasts aids in uterine contraction, which reduces blood loss, and helps establish lactation and an adequate milk supply.
<i>Breastfeed frequently whenever the infant is hungry, both day and night.</i>	Frequent suckling stimulates milk production and helps suppress fertility. This pattern is sometimes called <i>on request</i> , and may be as often as every one or two hours (or more) in the early weeks. Sucking and nuzzling indicate the infant is hungry. Waiting for the baby to cry is too late. Mothers who are separated regularly from their infants should refer to the section, Mother-Child Separation.
<i>Breastfeed exclusively for the first six months.</i>	Do not give the infant other foods, liquids, or water before the age of six months. Exclusive breastfeeding means that there is no supplementation to the infant's diet. Almost exclusive breastfeeding means there may be minimal supplementation—including vitamins—but not on a regular basis, while high-partial allows some supplementation. Any one of these patterns, which are considered fully or nearly fully breastfeeding, are sufficient for maintaining milk supply and fertility impact if feeding is frequent and continues both day and night. However, exclusive breastfeeding is the pattern that provides optimal health through the baby's first six months.
<i>After the first six months when supplemental foods are introduced, breastfeeding should precede each supplemental feeding.</i>	Breastfeed before offering other foods so that the infant's hunger is satisfied first by breastmilk and secondly by other foods. This practice will ensure that the infant receives the nutrients and immune factors contained in breastmilk while maintaining breastmilk production and fertility suppression.

Optimal Behavior

Explanation

Continue to breastfeed for up to two years and beyond.

Breastmilk remains an excellent source of both calories and protein for the toddler. Breastfeeding also continues to offer immunological protection, which is especially important once supplementary foods are introduced into the infant's diet. Where no other family planning is available, breastfeeding continues to contribute to fertility reduction.

Breastfeeding should continue even if the mother or the baby becomes ill.

Stopping breastfeeding during illness decreases milk supply and increases the chance of fertility return. The nutrients and immunological protection provided by breastfeeding are particularly important to the infant when the mother or the baby is ill. However, if the mother has a potentially lethal, transmittable disease—such as HIV or AIDS—she should ask the local health worker for the most current recommendations.¹⁹

Avoid using bottles, pacifiers (dummies), or other artificial nipples.

Use of artificial nipples may decrease an infant's suckling time as well as the ability and desire to suckle at the breast. Food or liquids should be given by a spoon or cup to reduce nipple confusion and the possible introduction of contaminants due to improper hygiene while handling.

Mothers should eat and drink sufficient quantities to satisfy their hunger and thirst.

No one special food or diet is required to provide an adequate quantity and quality of breastmilk. No foods are forbidden. The mother's extra energy requirements for pregnancy and lactation may be met from the available food staples of the country. Mothers should be encouraged to eat supplemental foods where they are accessible.

Mother-Child Separation

LAM may be used by women who work or who are separated from their children if the periods of separation generally are less than four to six hours. However, pregnancy rates for these women may be higher as they face obstacles that make optimal breastfeeding difficult. Additionally, policy issues, such as employer support, and time and space at work to breastfeed, create barriers to continued breastfeeding by working women. Some of the most common obstacles are described below with suggested strategies for overcoming them.²¹

Obstacle	Strategy
<i>Mother may be reluctant to initiate breastfeeding due to her concern about breastfeeding after returning to work.</i>	Emphasize the immediate value of breastfeeding regardless of duration, and encourage the mother to consider the following strategies to lengthen the period of breastfeeding for the health of her baby.
<i>Returning to work or prolonged separation could prevent adequate stimulation of the breasts, resulting in decreased milk supply and increased fertility.</i>	<p>Support maternal leave or extended absence from work as long as possible. Traditional periods of 40 to 42 days are a reasonable minimum.</p> <p>Encourage the mother to breastfeed more often when with her baby, including:</p> <ul style="list-style-type: none"> • Early in the morning • Prior to leaving for work and upon arriving home • Evening and night when she and the baby are sleeping together. <p>Encourage the mother to express breastmilk while away from the infant at least as often as the feeding pattern at home and never less than every four hours.</p> <p>Advise the mother to avoid unnecessary separations from infant during the night or days off.</p>
<i>Refrigeration for storage of expressed milk may not be available.</i>	Expressed breastmilk may be stored safely for 24 hours at 15°C, and for 4 hours at 25°C. ²¹ Breastmilk stored in a closed container packed with ice cubes can be kept at an acceptable temperature for many hours.
<i>Care givers may prematurely introduce milks, formulas, liquids, or foods into the infant's diet.</i>	Provide adequate instruction to the mother and care giver regarding the benefits of exclusive breastmilk feeding and the risks of early supplementation.
<i>When supplements are introduced, feeding during the mother's absences can decrease the child's appetite for breastmilk. Use of bottles can disrupt sucking patterns.</i>	Advise the mother to instruct the infant's care giver to always give expressed breastmilk, preferably by cup or spoon, before giving other foods, and explain why.
<i>Finding time and private space to express milk during working hours may not be feasible, making full breastfeeding difficult.</i>	Educate employers about the long-term benefits of breastfeeding: less infant illness and lower maternal fertility mean less employee absence.

Complementary Family Planning Options for Breastfeeding Women

1st choice

Non-Hormonal Methods

- LAM
- Condoms
- Diaphragm
- Spermicides
- Intrauterine Devices
- Natural Family Planning
- Vasectomy
- Tubal Ligation

2nd choice

Progestin-Only Methods

- Mini-pills
- Injectables
- Implants

3rd choice

Methods Containing Estrogen

- Combined Oral Contraceptives
- Combined Injectables

All breastfeeding women should be counseled on complementary family planning options, whether they are using LAM as birth spacing method, at risk of pregnancy (i.e., more than six months postpartum, or menstruating, or not fully or nearly fully breastfeeding), or simply selecting another option. This section gives an overview of the various methods and their compatibility with breastfeeding.^{1, 22-28} **Please note:** ranges of use effectiveness indicated here are for **perfect use*** in primarily non-lactating women.

Method	Breastfeeding Considerations	Advantages	Disadvantages
LAM Lactational Amenorrhea Method	<ul style="list-style-type: none"> • Supports optimal breastfeeding. 	<ul style="list-style-type: none"> • Does not require a physical examination. • Improved infant health through breastfeeding. • No action required at time of sexual intercourse. • No commodities needed. • 99% or more effective for up to 6 months. 	<ul style="list-style-type: none"> • Introductory method, is only effective in the postpartum months. • If mother and child are separated for extended periods, family planning efficacy may be decreased.
Condoms	<ul style="list-style-type: none"> • No effect on breastfeeding. • No risk to mother or child. 	<ul style="list-style-type: none"> • Does not require a physical examination. • Generally available. • Provides some protection against sexually transmitted diseases (STD). • 95-97% effective. 	<ul style="list-style-type: none"> • Requires action at time of sexual intercourse.
Diaphragm with spermicide	<ul style="list-style-type: none"> • No effect on breastfeeding. • No risk to mother or child. <p><i>See Spermicides.</i></p>	<ul style="list-style-type: none"> • May have some STD protective effect. • 94% effective. 	<ul style="list-style-type: none"> • Size requirements may change during the first months postpartum. • Requires action at time of sexual intercourse.
Spermicides	<ul style="list-style-type: none"> • No effect on breastfeeding. • Minuscule amounts may be absorbed into maternal blood and there may be some passage into milk; there is no known effect on the infant. 	<ul style="list-style-type: none"> • Does not require a physical examination. • Provides some STD protection. • Gives additional lubrication as vagina may be dry during breastfeeding. • 94% effective. 	<ul style="list-style-type: none"> • May cause local irritation to both men and women. • Requires action at time of sexual intercourse.

*Perfect use efficacy is defined in *Contraceptive Technology*, 16th Revised Edition, as the effectiveness attained "among couples who initiate use of a method (not necessarily for the first time) and who use it perfectly (both consistently and correctly)" during the first year of usage.

Method	Breastfeeding Considerations	Advantages	Disadvantages
Mini-Pill Injectables Implants Norplant®	<ul style="list-style-type: none"> • Study results vary: Some hormone may pass into breastmilk. There is currently no evidence of adverse effects on the infant from the very small amount of hormone which passes into the milk. • These methods should be considered on an individual basis, taking the planned breastfeeding pattern into consideration since milk production may be reduced if given prior to 8 weeks. 	<ul style="list-style-type: none"> • No action required at time of sexual intercourse. • Norplant® provides up to 5 years of protection. • Minipill: 99.5% effective. • Injectables: 99.7% effective. • Implants: 99.9% effective. 	<ul style="list-style-type: none"> • Studies of use prior to 8 weeks with full breastfeeding reflect possible negative effect on milk volume. • Some hormone may pass into breastmilk. It is unclear how well the hormone is metabolized by the infant in the first weeks of life. • Injectables require injections either monthly or every 3 months. Users may have irregular menstrual cycles. Hormone passes easily into breastmilk; passive absorption by the infant is not well studied. • WHO/A.I.D. recommend method use be delayed at least 6 weeks.
Combined Oral Contraceptives Combined Injectables Estrogen and Progestin	<ul style="list-style-type: none"> • Estrogens may reduce milk supply. • Some hormone may pass into breastmilk—there is no immediate nor long-term negative effect shown on infants. • In some women, decreased milk supply can lead to earlier cessation of breastfeeding. • Breastfeeding can and should continue during method use as it supplies important health and nutritional benefits for the infant and toddler. 	<ul style="list-style-type: none"> • No action required at time of sexual intercourse. • Decreased ovarian cancer and decreased anemia when used during menstrual cycling. • 99.9% effective. 	<ul style="list-style-type: none"> • Estrogens may reduce milk supply resulting in earlier supplementation and earlier cessation of full breastfeeding with concomitant risks. • WHO/A.I.D. recommend method use be delayed at least 6 months.

LAM: 20 Reasons to Make It Part of Your Program

➤ **LAM** is highly effective as a family planning method (99.5 percent by six-month life table in clinical study).^{13, 29}

➤ **LAM** is based on comprehensive scientific investigation.^{5, 6, 16}

➤ **LAM** was developed by family planning service program representatives and has been used in child survival and breastfeeding programs as well.³⁰

➤ **LAM** serves as a link to other reproductive and preventative health services.¹⁴

➤ **LAM** allows for a great deal of user "error" without a significant increase in pregnancy rates.^{9, 30}

➤ **LAM** can be offered and used successfully as a family planning method in a variety of settings.

➤ Because it is based on a natural behavior, **LAM** demands no logistic system until a complementary method is needed.

➤ **LAM** provides an average CYP (Couple Year Protection) of 0.25.³¹

➤ **LAM** attracts new family planning users.¹⁴

➤ **LAM** directly contributes to family planning prevalence through increased acceptance rates.³²

➤ **LAM** promotes timely introduction of complementary family planning among breastfeeding women, which indirectly contributes to increased family planning prevalence.^{14, 29}

➤ **LAM** is acceptable to many religious groups.³³

➤ **LAM** gives women time to choose which complementary method they prefer.

➤ **LAM** gives postpartum women in many settings the time they need to prepare for a permanent method of family planning by getting their households in order, finding child care, saving money, and having all necessary releases signed.

➤ **LAM** empowers women by putting them personally in control, and individualizes postpartum counseling.

➤ **LAM** is inexpensive and, in fact, saves money for the family.

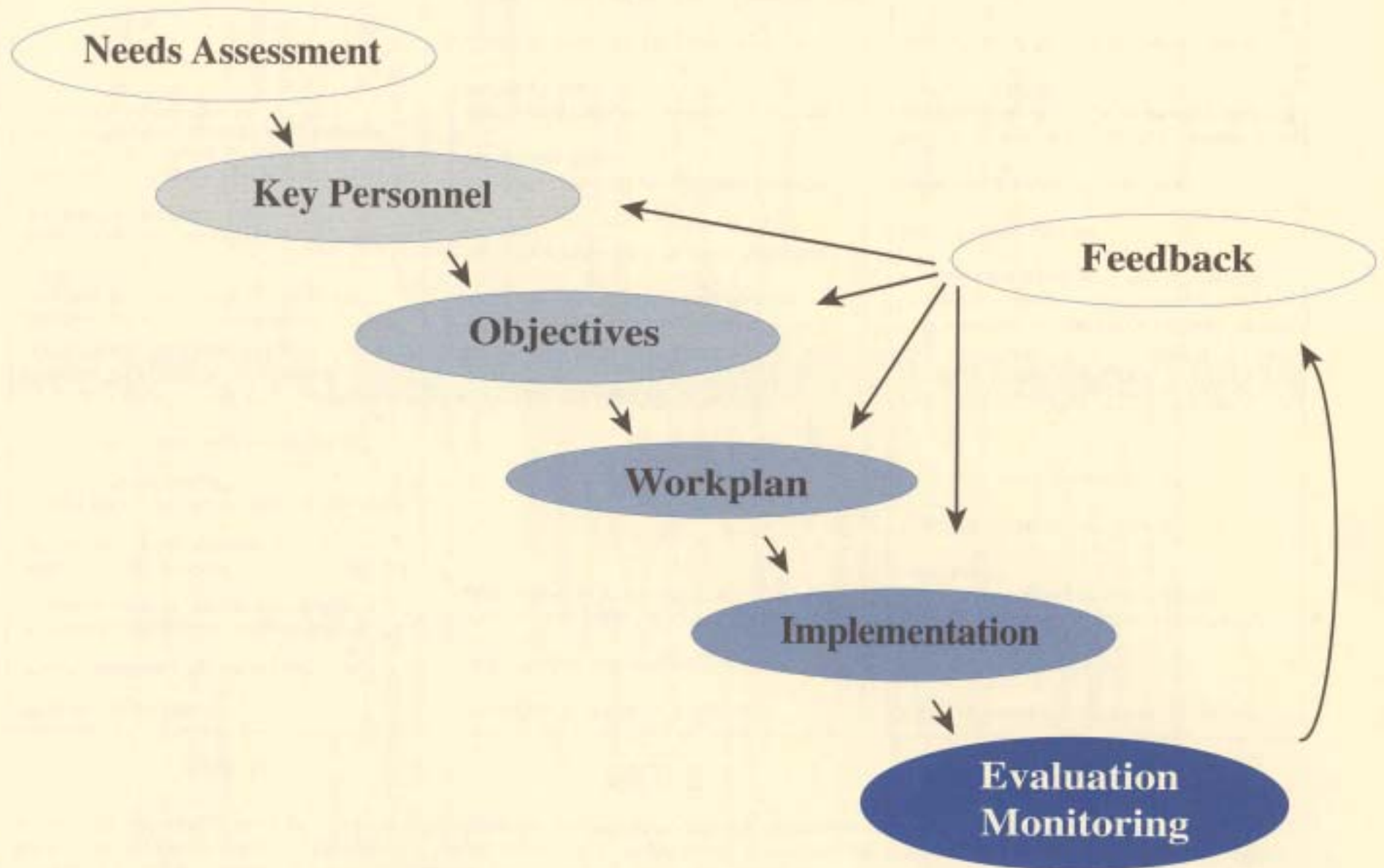
➤ Women worldwide believe that breastfeeding can be used for child spacing. **LAM** builds on these existing beliefs by providing parameters for the efficacious use of breastfeeding as a contraceptive.

➤ **LAM** can have positive effects on the environment by reducing the need for plastics and dairy farming, thus decreasing industrial waste.

➤ **Extended LAM** encourages timely weaning,¹⁵ and

➤ By encouraging optimal breastfeeding practices, **LAM** promotes the extraordinary side effects of improved infant nutrition, increased child survival, and maternal health benefits.

Steps for Implementing LAM in Programs



The success of LAM is dependent upon optimal breastfeeding practices. Below is a framework that can be used to develop and incorporate breastfeeding and LAM activities into either family planning or child survival programs.^{3,34} At any stage of program planning it may be useful to review the questions and resource suggestions listed on this chart to ensure that your organization can provide the necessary support that such programs require. The steps may be modified to meet your specific needs.

Step 1

Step 2

Step 3

<p>What are your priorities?</p> <p>What breastfeeding programs currently exist?</p> <p>With which institutions and groups (training, health, women's political groups) can you collaborate?</p> <p>What are existing breastfeeding, weaning, and supplemental feeding practices?</p> <p>What proportion of women work outside of the home before six months postpartum?</p> <p>How will the project be supported (financed)?</p>	<p>Who will be responsible for this effort?</p> <p>How will you provide in-house expertise?</p> <p>What are training needs of key individuals so they might be considered "expert" by their organization?</p>	<p>What do you want to achieve with this program?</p> <p>Where will the program take place?</p> <p>What segment of the population can you expect to influence (nation, community, or program participants)?</p> <p>When will the program start and end?</p> <p>Are your objectives measurable?</p>
CONDUCT NEEDS ASSESSMENT >>>	IDENTIFY AND TRAIN KEY PERSONNEL >>>	DEFINE OBJECTIVES >>>
<p>Interview representatives of relevant groups, staff of existing services, community leaders, and mothers.</p> <p>Identify and contact any organization that gathers health and welfare data.</p> <p>Identify existing resources in institutions that can help with implementing the program (e.g., Baby Friendly Hospitals, family planning organizations, child survival donors).</p>	<p>Identify current breastfeeding programs in the community that may have training programs.</p> <p>Select key personnel to serve as local/organizational expert(s).</p> <p>Train key personnel in promotion and support of breastfeeding skills.</p> <p>Identify supervisory staff and ensure basic breastfeeding training.</p> <p>Identify local breastfeeding support organizations.</p> <p>Contact nutrition/food programs and family planning service providers.</p>	<p>Review materials and information gathered through the needs assessment with trained key personnel and seek their input in program development process.</p> <p>Define the target audience.</p> <p>Define a set of measurable objectives.</p> <p>Work with organizations offering breastfeeding and family planning services to assure compatibility of messages and services.</p> <p>Identify potential barriers and areas of resistance.</p>

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